

**We Claim:**

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1. A valve actuation linkage mechanism for use in an internal combustion engine comprising:  
a rocker arm having a pivot rod cup;  
a pivot rod; and  
a valve bridge having a pivot rod chamber.
  2. The valve actuation linkage mechanism of Claim 1, further comprising a pivot rod retainer.
  3. The valve actuation linkage mechanism of Claim 2, wherein the pivot rod retainer comprises:  
a pivot rod orifice having at least one pivot rod prong; and  
at least one securing orifice.
  4. The valve actuation linkage mechanism of Claim 2, wherein the valve bridge further comprises:  
a middle valve bridge section having the pivot rod chamber and at least one adjacent pivot rod retainer securing bore; and  
a bottom valve bridge section.
  5. The valve actuation linkage mechanism of Claim 1, wherein the pivot rod chamber further comprises a lubricant dimple.

6. The valve actuation linkage mechanism of Claim 2, wherein the pivot rod comprises:

- a pivot rod head;
- a pivot rod neck;
- a pivot rod body; and
- a pivot rod bottom.

7. The valve actuation linkage mechanism of Claim 1, wherein the pivot rod and pivot rod chamber cooperate to form a contact line.

8. A valve actuation linkage mechanism for use in an internal combustion engine comprising:

- a rocker arm having a pivot rod cup;
- a pivot rod;
- a pivot rod retainer; and
- a valve bridge having a pivot rod chamber.

9. The valve actuation linkage mechanism of Claim 8, wherein the pivot rod retainer comprises:

- a pivot rod orifice having at least one pivot rod prong; and
- at least one securing orifice.

10. The valve actuation linkage mechanism of Claim 8, wherein the valve bridge further comprises:

a middle valve bridge section having the pivot rod chamber and at least one adjacent pivot rod retainer securing bore; and

a bottom valve bridge section.

11. The valve actuation linkage mechanism of Claim 8, wherein the pivot rod comprises:

a pivot rod head;

a pivot rod neck;

a pivot rod body; and

a pivot rod bottom.

12. The valve actuation linkage mechanism of Claim 8, wherein the pivot rod chamber further comprises a lubricant dimple.

13. The valve actuation linkage mechanism of Claim 8, wherein the pivot rod and pivot rod chamber cooperate to form a contact line.

14. A valve actuation linkage mechanism for use in an internal combustion engine comprising:

a pivot rod;

a pivot rod retainer;

a valve bridge having a pivot rod chamber; and

at least one fastener able to secure the pivot rod retainer to the valve bridge.

15. The valve actuation linkage mechanism of Claim 14, wherein the pivot rod retainer comprises:

- a pivot rod orifice having at least one pivot rod prong; and
- at least one securing orifice.

16. The valve actuation linkage mechanism of Claim 14, wherein the valve bridge further comprises:

- a middle valve bridge section the pivot rod chamber and at least one adjacent pivot rod retainer securing bore; and
- a bottom valve bridge section .

17. The valve actuation linkage mechanism of Claim 14, wherein the pivot rod chamber further comprises a lubricant dimple.

18. The valve actuation linkage mechanism of Claim 14, wherein the pivot rod comprises:

- a pivot rod head;
- a pivot rod neck;
- a pivot rod body; and
- a pivot rod bottom.

19. The valve actuation linkage mechanism of Claim 14, wherein the pivot rod and pivot rod chamber cooperate to form a contact line.